## **CLAIMS**

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1	1. A wheless modern unit (wivio) comprising:
2	a processor;
3	a modulator controlled by the processor;
4	a pre-preamble modulator controlled by the processor;
5	a summation circuit connected to receive an output from the modulator and an
6	output from the pre-preamble modulator; and
7	an output stage connected to an output of the summation circuit;
8	wherein a pre-preamble signal generated by the pre-preamble modulator alerts
9	the output stage of an impending data burst.
1	2. The wireless modem unit of Claim 1, wherein the pre-preamble modulator
2	produces a carrier at a frequency outside of a normal data band.
1	3. The wireless modem unit of Claim 2, wherein the carrier is Amplitude Shift
2	Key modulated.
1	4. The wireless modem unit of Claim 3, further comprising a diplexer
2	connected between the output stage and a transverter.
1	5. A transverter control system comprising:
2	a diplexer connected to a wireless modem unit (WMU) and receiving a
3	downstream signal and outputting an upstream signal;
4	a transmission path comprising:
5	a notch filter having an input connected to the upstream signal;
6	an upconverter connected to the notch filter; and
7	a transmitter switch connected to an output of the upconverter;
8	a control path comprising:

9	a band pass filter having an input connected to the upstream signal; and
10	a detector and demodulator unit connected to the band pass filter;
11	wherein the detector and demodulator unit outputs a control signal to control
12	the upconverter and the transmitter switch based on a pre-preamble signal received
13	from the wireless modem unit.
1	6. A transverter control system for a wireless modem, the system comprising:
1	a wireless modem unit (WMU) comprising:
2	a processor;
3	a modulator controlled by the processor;
4	a pre-preamble modulator controlled by the processor;
5	a summation circuit connected to receive an output from the modulator
6	and an output from the pre-preamble modulator; and
7	an output stage connected to an output of the summation circuit;
8	wherein a pre-preamble signal generated by the pre-preamble
9	modulator alerts the output stage of an impending data burst; and
10	a transverter control system comprising:
11	a diplexer connected to a wireless modem unit (WMU) and receiving a
12	downstream signal and outputting an upstream signal;
13	a transmission path comprising:
14	a notch filter having an input connected to the upstream signal;
15	an upconverter connected to the notch filter; and
16	a transmitter switch connected to an output of the upconverter;
17	a control path comprising:
18	a band pass filter having an input connected to the upstream
19	signal; and

20	a detector and demodulator unit connected to the band pass
21	filter;
22	wherein the detector and demodulator unit outputs a control signal to control
23	the upconverter and the transmitter switch based on a pre-preamble signal received
24	from the wireless modem unit.
1	7. A method of control of a transverter in a wireless access system, the
2	method comprising:
3	creating a pre-preamble signal and a control data signal in a wireless modem
4	unit (WMU);
5	transmitting the pre-preamble signal as a notification signal;
6	transmitting the control data signal to the transverter;
7	detecting the pre-preamble signal at the transverter, and in response to the
8	detected signal, disabling a transmitter switch;
9	decoding and processing the control data signal; and
10	resetting the transmitter switch.
1	8. A method of transverter control, the method comprising:
2	programming a modem to a low frequency;
3	transmitting control data at the low frequency;
4	re-programming the modem to an appropriate frequency to transmit actual
5	data;
6	modifying transverter parameters in response to the control data; and
7	transmitting the actual data via the transverter.
1	9. A transverter pre-preamble signal detection circuit, the circuit comprising:
2	a tap connected to an upstream signal path;
3	an amplifier connected to a tap output;

4	a detector connected to an amplifier output;
5	a comparator having a first input and a second input, the first input connected
6	to a detector output, and the second input connected to a reference voltage; and
7	a one-shot circuit connected to an output of the comparator, the one-shot
8	controlling a power amplifier.
1	10. A transverter pre-preamble signal detection circuit having an automatic
2	reference level determination, the circuit comprising:
3	a tap connected to an upstream signal path;
4	an amplifier connected to a tap output;
5	a detector connected to an amplifier output;
6	a first filter having a fast response time connected to a detector output;
7	a second filter having a slow response time connected to the detector output;
8	a first comparator having a first input connected to the first filter and a second
9	input connected to the second filter; and
10	a one-shot circuit connected to an output of the first comparator, the one-shot
11	circuit comprising:
12	a diode;
13	a low pass filter connected to the diode;
14	a reference voltage source; and
15	a second comparator having a first input connected to the reference
16	voltage source, and a second input connected to the low pass filter.
1	11. A transverter pre-preamble signal detection circuit, the circuit comprising:
2	a tap connected to an upstream signal path;
3	a band pass filter connected to the tap;
4	an amplifier connected to a band pass filter output;

- a detector connected to an amplifier output; and
- a comparator having a first input and a second input, the first input connected
- 7 to a detector output, and the second input connected to a reference voltage;
- wherein the detector circuits detects control commands sent from a modem
- 9 which are outside of a passband of the IF to RF conversions of the modem.